



Kane County 2040 Transportation Plan Overview

A Plan that Focuses on
Mobility and Connectivity

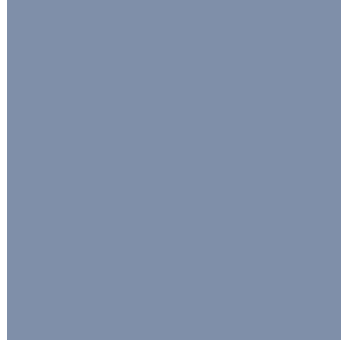


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Introduction

The 2040 Transportation Plan is the long-term vision for Kane County that guides transportation development through the year 2040. Mandated by Illinois State Statute, a long-range transportation plan is imperative for the safety of Kane County residents and visitors, and an essential planning and implementation tool to support viable economic development. The plan is based on projections of growth and travel demand and seeks solutions on how to accommodate an additional 290,000 new residents and 144,000 new jobs by the year 2040.

The 2040 Transportation Plan was developed for the forecast year 2040 in concert with the ongoing Land Resource Management Plan update and various health initiatives by the County, under the *Quality of Kane* campaign, with the goal of *Healthy People, Healthy Living and Healthy Communities*. It incorporates various planning efforts completed to date and consists of 3 elements that were updated concurrently:

1. Roadway Plan
2. Bicycle and Pedestrian Plan
3. Long Range Transit Plan

Additional planning efforts include the IL 47 Corridor Planning Study and the Randall/Orchard Bus Rapid Transit (BRT) Study, which focus on how land use patterns and transportation systems influence each other.

The plan addresses existing deficiencies in the transportation network and projected countywide development trends, and provides a comprehensive suite of multi-modal improvement recommendations that focus on improving mobility and connectivity. It recommends the construction of needed infrastructure and aims to increase travel

options that provide safe access to land uses for motorists, pedestrians, cyclists and public transportation patrons. Furthermore, the plan includes revenue and expenditure forecasts to assist with the determination of roadway improvement projects that are to be incorporated in the fiscal program.

Regional Setting

Kane County is part of the Chicago metropolitan area, located in the far west suburbs with a land area of 522 square miles. With its unique blend of agricultural lands to the west and the more urbanized areas located adjacent to the Fox River in the east, Kane County exists as a desirable place to live, work, and enjoy the recreational options throughout the County.

The county measures approximately 30 miles north to south and 18 miles east to west with 16 townships and 30 municipalities. In 2010, the Census population for Kane County was 515,269, and the Chicago Metropolitan Agency for Planning estimated Kane County's employment at 224,546. The County is divided into three principal land use areas with a north/south orientation; the Sustainable Urban Area in the east, the Critical Growth Area in the center and the Agricultural/Food, Farm, and Small Town Area in the west. It is within commuting distance of Chicago and other regional employment centers such as Rockford, Schaumburg, and Oak Brook. O'Hare International Airport lies 18 miles to the east.

Objectives and Strategies

Kane County Division of Transportation's Mission Statement is: To provide and maintain a safe and efficient transportation system while sustaining the County's vision and values. The Transportation Objectives and Strategies outlined in this plan are designed to set the context for specific individual decisions, which the County must make regarding future transportation facilities or actions. The principles controlling these decisions are arranged in several major categories similar to those established previously in the Kane County 2030 Transportation Plan. The major objectives are:

- Safety
- Personal Mobility
- Cooperative Planning
- Quality of the Environment
- System Efficiency

A broad, overall strategy is postulated for each major objective of the plan. This is followed by more specific strategies. The objectives and strategies are presented in no particular order.

Safety Objective

Provide a multi-modal transportation system that is safe for all users.

Strategies:

- Utilize safe roadway designs and access management standards (in accordance to industry standards and requirements) that increase safety for motorists, pedestrians, cyclists and public transportation users.
- Design solutions and implement improvements to address safety concerns at high accident locations.
- Provide a high level of roadway maintenance and traffic operations management that increases the safety of the motoring and non-motoring public.

Personal Mobility Objective

Develop a balanced multi-modal transportation system that adds to the available travel options, increases personal mobility and offers alternatives to the Single Occupancy Vehicle (SOV).

Strategies:

- Promote and consider designs and roadway improvements that result in safe, attractive and comfortable access and travel for all users.
- Consider transit and multi-modal supportive infrastructure and connectivity when designing and improving roadway facilities.
- Develop a comprehensive network of safe, local and regional bicycle and pedestrian systems through coordinated planning efforts at local and regional levels.
- Promote a safe, convenient and ADA accessible public transportation system that is both cost and time competitive and serves local and regional trips.

Cooperative Planning Objective

Coordinate local and regional transportation planning to provide a transportation system that accommodates both existing and future travel demands and supports County and regional land use plans and policies.

Strategies:

- Preserve and protect potential and existing rights-of-way for transportation systems.
- Balance the need for additional capacity with the need to preserve and maintain the local area's character while applying Context Sensitive Designs (CSDs).
- Encourage Transit Oriented Development (TOD) and Transit Corridor Planning (TCP) strategies in new developments or redevelopment projects where appropriate.
- Encourage public involvement as part of the transportation planning process and provide an updated website to keep the public informed.

Quality of the Environment Objective

Maintain and improve the quality of the environment while providing transportation services and facilities.

Strategies:

- Pursue and encourage improvements that reduce congestion and improve air quality.
- Investigate and utilize relevant Transportation Control Measures to improve and protect the air and environmental quality of Kane County.
- Design and construct transportation improvements in a manner and method that preserves and protects the natural resources of Kane County.

System Efficiency Objective

Reduce the growth in congestion and vehicle miles traveled, while preserving the County's transportation system and its carrying efficiency.

Strategies:

- Prioritize maintenance of facilities in order to preserve the public investment and efficiency of the transportation system.
- Investigate, promote and institute relevant Transportation Control Measures (ITS, TDM, TSM etc.) to improve traffic mobility and to optimize system efficiency.
- Provide continuous routes between activity centers and improved access to Tollway facilities.
- Design major roadways to consolidate access and provide connectivity for motorists, pedestrians, cyclists and public transportation users.
- Consider capacity improvements that support economic development and address recent and projected growth that is supported by the County's planning efforts and policies.
- Promote and support land use planning, policies and decisions that minimize vehicle trip generation and vehicle miles traveled.

Improvement Strategies

The 2040 Transportation Plan includes a comprehensive suite of improvements to provide a safe and efficient transportation system, to reduce the growth of congestion, to provide a variety of transportation options and to foster healthy and livable communities. Overall, the recommended transportation enhancements for Kane County focus on roadways, transit, Intelligent Transportation Systems (ITS), bicycle/pedestrian travel, alternative strategies including Transportation Demand Management (TDM) and Transportation System Management (TSM), connectivity and a system wide grid network, and land use decisions that minimize vehicle trip generation.

The majority of travel is on the roadway system. The proposed roadway improvements include widening of arterials and the tollways, new corridors and realignments, and the promotion of a local collector road system. Transit improvements are also planned to expand and improve the services provided by Metra and Pace and include employer and municipal sponsored transit services. Bicycle/pedestrian travel will be improved by connecting existing trails, increasing the bicycle level of service (BLOS) for on-street routes, and developing new trails. To support the transportation system, alternative strategies are also explored to include the development and promotion of TDM and TSM practices.

Roadway

The 2040 Recommended Roadway Plan includes a list of highway improvements identified from the transportation modeling effort that focuses on expanding the highway system and includes improvements to the Tollways, Strategic Regional Arterials (SRAs), other arterials, new bridge and road corridors, and new roadway alignments. Many of the projects were identified through planning efforts and by multiple sources. The resulting roadway improvement list incorporates all of the recommendations from CMAP's GOTO 2040 Plan, Kane County's Impact Fee Comprehensive Road Improvement Plan (CRIP) and previous recommendations from the 2030 Transportation Plan.

The initial set of improvements in the 2040 Recommended Roadway Improvement Plan includes the committed projects that consist of the Anderson Road extension and grade separation project, the widening of Orchard Road, the full interchange improvement at IL 47 and I-90, and elements of the Stearns Road Bridge Corridor project. These projects are underway and/or programmed in the County's 5-year Transportation Improvement Plan. Although the Impact Fee CRIP is vastly underfunded, many of the projects are intersection improvements, and are also considered to be near term needs. Other recommended improvements are for roadways with regional significance including limited access freeways, SRAs, expressways, and tollways. The projects were evaluated to determine their effectiveness at reducing congestion.

The total cost of the Recommended Roadway Plan excluding the Prairie Parkway is estimated at approximately \$2.87 Billion. The estimated cost of improvements on the County highway system, not including committed

projects, is approximately \$1.25 Billion. Compared to needs, Kane County has limited revenues. As a result, the County would not be able to fund the entire capacity expansion projects within the planning horizon of the plan. The revenues available for capacity improvements are estimated at \$136 Million over the 30 year planning horizon. However, the County has funding commitments from the federal government and may also receive additional federal funds in the future. Additionally, the County is investigating future funding and project implementation alternatives such as project staging, cooperative planning, intergovernmental agreements, etc. As another unique funding opportunity, the County is also considering constructing and operating the Longmeadow Parkway Bridge over the Fox River as a toll Bridge.

Given limited resources projected for capital improvements, priorities have been established as follows:

- Public safety Improvements
- Randall Road and Orchard Road Capacity Enhancements
- Anderson Road Extension and Grade Separation Project
- Longmeadow Parkway Bridge Corridor
- IL 47/I-90 Interchange
- Various Intersection Improvements

Additional recommendations include local bridge projects, locally planned capacity improvements to the collector roadway system, access management, and transportation system management (such as intelligent transportation systems).

Bicycle and Pedestrian

The broad objectives of the Kane County Bicycle and Pedestrian Plan are to collect all previous bicycle and pedestrian planning studies, comprehensively identify all existing, proposed, regional and conceptual bikeways, and strategically plan for bikeway projects to expand the countywide network. This network will improve public safety, encourage alternative modes of transportation, and increase recreational opportunities in the county. The recommended plan recognizes that no single type of bicycle facility accommodates all types of bicyclists and therefore recommends design standards for various types of facilities. The plan also contains design recommendations for pedestrian facilities. Additionally, it investigates various design options to reduce conflict and improve safety both at intersections and mid-block crossing locations.

The plan proposes two strategies. The first strategy is to have municipalities adopt policies and programs to encourage the development of bicycle and pedestrian facilities during roadway design and construction and to encourage bikeway connectivity to the existing system. The second strategy is the construction of physical improvements to the bikeway and sidewalk network to connect people with popular destinations and origins. The objectives of physical improvements are to link bicycle and pedestrian destinations, increase pedestrian and bicyclist safety, improve bicycle network connectivity, support multimodal transportation, eliminate barriers that prevent bicycle and pedestrian trips, and develop future bikeway corridors.

The plan proposes the expansion and creation of bicycle and pedestrian facilities in Kane County that encompass regional facilities, local multi-use paths, planned facilities, conceptual trails and transit links. Currently, there are approximately 136 miles of regional and 215 miles of local bicycle and pedestrian facilities in Kane County. Most of the local paths are within neighborhoods or link major pedestrian destinations such as schools, parks, Metra commuter rail stations, recreation facilities or regional trails. The 2011 Kane County Bicycle Planning Map recognized over 430 miles of additional planned bikeway facilities and approximately 380 miles of conceptual trails in Kane County.

The expanding bikeway network allows the use of bicycles as a safe transportation option. Also, a safer environment with connections between origins and destinations encourages walking for short errands and improves access to transit. Bicycle and pedestrian paths are considered integral parts of the transportation system and can be used in place of automobiles to meet air quality improvement goals. These facilities have many positive effects on the community; they are environmentally sound, reduce congestion and associated air pollution, and provide health benefits.

Transit

Kane County Long Range Transit Plan

The Kane County Long Range Transit Plan (LRTP) is the transit element of Kane County's long-range comprehensive planning efforts, built upon previous plans that addressed transit, including the County's 2030 Transportation and Land Resource Management Plans and the 2002 Transit Opportunity Assessment. Today, most Kane County residents who have access to a car depend on it for travel. The LRTP identifies the need to address automobile dependence in Kane County in order to accommodate projected population and employment growth while mitigating increased traffic congestion and its adverse impacts on air quality and quality of life. It also recognizes the relationship between existing land use patterns in the County and the challenge of providing efficient transit service. Reducing automobile dependence and fostering land use patterns that support "active" forms of transportation like walking, bicycling, and transit (which typically involves at least one walking trip) are now increasingly recognized as key elements of healthy living and sustainability. In the public outreach conducted for the LRTP, numerous stakeholders articulated the importance of providing quality transit service for people who depend on it by making transit a more convenient, reliable travel option for County residents.

Current economic conditions make it hard for private and public entities to invest in new services and sustain existing ones. Pace, along with other public transit providers, has struggled to maintain existing bus routes and has had to discontinue some services. Strategies to make transit a viable travel option for County residents must recognize these fiscal constraints in the short-term. With this in mind, the short-term strategies in the LRTP focus on implementing non-traditional services sponsored by municipalities and employers, changing development patterns, integrating transit with land use planning, and improving transit marketing and information. Finally, the plan recommends that Kane County coordinate with the municipalities and Pace officials in order to develop a

Primary Transit Network (PTN) Policy to coordinate transit and land uses. A PTN is a network of transit corridors planned and developed for the greatest transit ridership and community benefit.

Randall Road Pace Route 529 Study

In addition to the long range transit plan, the County's Randall Road Pace Route 529 Plan identifies bus stop and pedestrian crossing improvements associated with access to Transit for near-term future.

In Fall 2005, Pace Route 529 was extended to Randall Road to serve riders along five growing communities in Kane County; Aurora, North Aurora, Batavia, Geneva, and St Charles. Recognizing the transit potential of the Randall Road corridor, the Kane County Division of Transportation embarked on a study to evaluate possible alternatives for improving bus access and ridership along the corridor from Sullivan Road to Illinois Route 38. Guided by an advisory council consisting of representatives from the impacted municipalities, Kane County, the Regional Transportation Authority (RTA), Pace Suburban Bus, and the consultant team, the study provides a set of recommendations to:

- Optimize transit operations
- Support transit-oriented land use within corridor
- Improve ridership
- Provide a cost-effective implementation plan and final report

The study assessed surface infrastructure deficiencies in order to improve pedestrian access, evaluated route service alternatives to maximize transit operations, and developed future land use design guidelines to promote transit-oriented development. Short and long-term recommendations included installation of bus shelters, waiting pads, connecting walkways, crosswalks, and access ramps at bus stop locations that have high ridership. Additional stops are recommended at strategic locations to enhance transit service without major impacts to existing roadway operations. Future land use guidelines were developed in an effort to encourage long term transit oriented development and capture future riders. These guidelines include: encouraging mixed-use development; connecting residences to the corridor; orienting buildings to the street; creating public and open spaces; recreating the parking environment; and designing for the pedestrian experience.

Short-term and a long-term strategies were identified in the implementation plan and included potential funding sources and strategies for future development. Through partnering with Pace and the RTA, Kane County is ready to take the first steps in improving transit and pedestrian access to the Randall Road corridor and seize the opportunity to promote transit service along a major corridor connecting the northern and southern parts of the County. Many of the recommended infrastructure improvements are programmed for implementation in 2012.

Randall/Orchard Bus Rapid Transit (BRT) Study

The County's BRT study focuses on creating a regional vision for transit, changing the current mindset regarding land use along Randall, and incremental implementation of transit infrastructure to ultimately support the proposed future BRT. The Randall/Orchard BRT Study is currently in progress, and this section will be updated and expanded upon the completion of the study.

The study examines the land use conditions required to support a higher level of transit service and the potential benefits in terms of traffic congestion, air quality improvements, increased land values, job creation and economic development. Today, the Randall Road corridor has difficulty supporting fixed route transit services, but the County's vision is, that over the next 30 years, (re) development along the corridor could include mixed-use, higher density, transit supportive land use patterns with improved pedestrian linkages and access to the corridor. These conditions, along with the major medical and employment centers, would have the ability to accommodate an enhanced transit service that offers many of the same attributes as rail transit, such as fast, frequent, and reliable service, specialized vehicles and high-amenity stations.

While it is anticipated that new land uses and redevelopment at future station areas and stops would be approved through municipal decisions, Kane County will have a major role in coordinating station area access improvements to the county highway right of way in order to accomplish a BRT system.

Paratransit and the Ride in Kane Program

Kane County adopted the Kane County Paratransit Coordination Study in 2003, which identified transportation needs and available transportation options for the elderly and people with disabilities, and developed recommended approaches to coordinate the existing services to best meet those needs. Based on the findings of the study, the Kane County Paratransit Coordinating Council (KCPCC) was established in October 2003 to share information, expand awareness of transportation issues, and identify opportunities for better coordination and operation of paratransit service. The KCPCC also provides a forum for identifying best practices for paratransit services.

Subsequent to the formation of the KCPCC, the Ride in Kane (RIK) Program started operations in February 2008. This program provides curb-to-curb, dial a ride paratransit transportation utilizing taxis, vans and lift equipped paratransit buses. Service is available to seniors, individuals with disabilities, and some low-income persons (traveling for work related purposes) who reside in Kane County or adjacent areas as approved by participating sponsors. To participate, RIK riders must be registered and sponsored by a local government or organization that is a member of the RIK Sponsor Committee and provides funding support. Currently there are 19 RIK partners.

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Effect of Land Use Policies on Transportation

Reducing the Growth in Congestion through Land Use Decisions

The shape and design of developments play an important role in how much people travel by car. When neighborhoods are compact and many of a person's daily needs can be accommodated by transit, bicycle, or within a few minutes' walk, vehicle trips per household decline rapidly. Supportive land use patterns and site design can result in:

- Reductions in the growth of VMT, pollutant emissions, and energy consumption;
- Increased transit use and productivity; and
- Walkability of activity centers;

(Transit Cooperative Research Program [TCRP] Report 95, 2003).

At higher densities, use of alternative modes of transportation, particularly transit and pedestrian travel, is higher, and per capita passenger vehicle trips and Vehicle Miles Travelled (VMT) are lower.

There is general consensus regarding the positive relationship between land use density and transportation. A number of studies have shown a relationship between population density and per-capita auto travel, with less per-capita vehicle travel at higher densities. Higher densities are associated with lower proportions of travel by single occupancy vehicle, lower vehicle miles travelled, and most strongly linked with higher use of transit and walking modes. However, the success of density in reducing vehicle trips is also dependent on the following factors:

1. **Distance to transit** – the location of a development relative to transit can result in a mode shift and therefore reduce VMT. Typically, Transit Oriented Developments (TODs) include residential and commercial centers designed around a rail or bus station and should consider the following design features to optimize vehicle trip reduction:
 - a. A transit station/stop located within a 5-10 minute walk (approximately $\frac{1}{4}$ mile); or
 - b. A rail station located within a 20 minute walk (approximately $\frac{1}{2}$ mile)

Effects of TOD on Housing, Parking, and Travel (TCRP Report 128, 2008) states that TODs have 47% lower vehicle trip rates and have 2 to 5 times higher transit mode share.

2. **Location** – the location of a development relative to urban/suburban contexts influences the amount of VMT. Density has a negligible impact on VMT reduction in a rural environment (or Greenfield site, unless

it's a master planned community) because jobs and amenities may not be accessible without the use of a vehicle. *Growing Cooler* (Ewing, et al, 2008) reviewed 10 studies that consider the affect of location on VMT and found that infill locations generate substantially lower VMT per capita than do Greenfield locations, ranging from 13-72% lower VMT.

3. **Mix of uses** – typically residential and commercial development and the degree to which they are balanced in an area (jobs-housing balance). A mixture of land uses reduces the number of vehicle trips by reducing travel distances and allowing more trips by alternative modes (i.e. cycling, walking and transit). Trip reduction is further reduced when affordable housing is located in job-rich areas (Modarres1993; Kuzmyak and Pratt 2003; Ewing, et al. 2010; Spears, Boarnet and Handy 2010).
4. **Design and Walkability** – Neighborhood layout and street characteristics, particularly connectivity, block size, presence of sidewalks and other design features (e.g. shade, scenery, presence of attractive homes and stores) that enhance the pedestrian and bicycle friendliness of an area.

The 2040 Conceptual Land Use Strategy adopted by the Kane County Board is the framework for the 2040 Land Resource Management Plan (LRMP). The land use strategies are given for three areas within the county – the Sustainable Urban Corridor Area located in the easternmost portion of the county along the Fox River; the Critical Growth Area located west of the Urban Corridor generally in the center of the county; and the Agricultural/Food, Farm and Small Town Area in the westernmost portion of the county. Two of the Smart Growth Principles from the 2040 Conceptual Land Use Strategy are to create walkable neighborhoods and provide a variety of transportation choices. It is acknowledged that communities are beginning to implement new approaches to transportation planning, such as better coordinating land use and transportation; planning for land uses that can support higher quality transit service; creating connectivity within the transportation networks and between pedestrian, bike, transit and road facilities.

The County's 2040 LRMP recognizes the role of all of the 10 smart growth principles as well as the new Livability Principles recommended by the Partnership for Sustainable Communities, in providing more transportation choices, and creating active and convenient communities that link people to jobs as well as to commercial, retail and entertainment centers. The County encourages communities to embrace the Smart Growth and Livability Principles to support and create more livable communities, and to reduce the growth in congestion through smart land use decisions.

Impact Fee Discount Program

In 2004, when Kane County completed the 2030 Land Use and Transportation Plans, many policy challenges related to growth became apparent, one of which was future traffic congestion. At that time, the County estimated that municipalities would have made 90% of future land use decisions by the year 2030. The challenge was to look at ways to reduce travel demand by encouraging municipal land use decisions that support vehicle trip reduction and alternative forms of transportation, such as transit, biking and walking.

In Illinois, counties with populations over 400,000 are able to implement a Road Improvement Impact Fee Program. Illinois' statute states that "...new development should bear its fair share of the cost of meeting the demand for road improvements through the imposition of road improvement impact fees." During the most recent update to the County's Impact Fee Ordinance, Kane County implemented a Discount Program that would allow for a reduced impact fee for land use decisions that utilize smart growth principles in order to reduce traffic impacts.

The County's discount program utilizes several LEED-ND (Leadership in Energy and Environmental Design – Neighborhood Development) smart growth principles that encourage reduced traffic impacts such as Smart Location and Linkage, and Neighborhood Pattern and Design. By meeting all 4 basic requirements in the County's Discount Program: transit availability, proximity of multiple land uses, density, and walkability, a developer can receive a 40% Impact Fee discount.

The 4 basic requirements of the program are:

1. **Transit Availability** - The main or public building entrance is to be located within $\frac{1}{2}$ mile walking distance of a fixed-route public bus service OR within 1 mile walking distance of a public commuter rail service.

This requirement reduces vehicle trips by providing an alternative option to the single occupancy vehicle.

2. **Proximity of multiple land uses** – All building entrances must be within $\frac{1}{4}$ mile (represents about a 5 minute walk) of a least 4 of various land uses or trip generators (specified in the Comprehensive Road Improvement Plan for Impact Fees) OR within $\frac{1}{2}$ mile of at least 6 of various land uses or trip generators.

Developments that include a variety of land uses help reduce vehicle trips by having commonly visited land uses within walking distance of a development.

3. **Density** - The average residential density is at least 7 units per acre OR average non-residential or mixed use floor area ratio is at least 0.5, (which is the minimum units per acre to support basic bus service on the half hour).

Studies have shown that 7 units per acre densities are generally required to successfully support basic transit service, which would also help reduce vehicle trips.

4. **Walkability** - No parking is allowed between the building and the sidewalk along the street AND the average block perimeter is limited to a maximum of 2,200 feet.

An inviting pedestrian environment with small block sizes will encourage increased walking and biking, therefore providing transportation options alternate to the SOV.

Each of the following is worth an additional 10% discount:

- **Location efficiency** - If the new development is located on an infill site OR on a previously developed site.
- **Additional Density** - If the developer increases the average residential density to at least 14 units/acre or a FAR of at least 1.0. If the developer increases the average residential density to at least 28 units/acre or FAR of at least 1.5, another 10% impact fee discount may be provided.

The Discount Program may help to influence land use decisions and thereby minimize the growth in vehicle miles traveled. The County Board unanimously passed the program in 2007.

IL 47 Corridor Planning Study

IL 47 travels through agricultural areas as well as connecting the regional centers of Woodstock, Huntley, and Sugar Grove. The IL 47 Corridor Planning Study provides economic, land use and transportation strategies and tools to address the planning challenges associated with growth and development. The goal of the Study is to encourage a healthy population and economy through the promotion of sustainable land use practices, complete streets, and smart growth principles.

The study recognized that more than a boundary agreement is needed to address the challenges associated with growth, and demonstrated how municipalities and other agencies need to work collectively to mitigate the impacts of growth and work towards commonly defined objectives. A regional vision can also help to mitigate congestion, which can be achieved in part by the local land use practices addressed in the study. The formation of a Corridor Planning Council, consisting of the governmental agencies that influence the Corridor, was seen as an important strategy to promote regional coordination.

The study focused on the planning challenges that the municipalities will face as the Corridor develops. A significant challenge being that public sector roadway expansion likely will not keep pace with private sector land use growth. Multiple agencies with overlapping jurisdiction of economic development, land use, infrastructure, and transportation in the Corridor create unique challenges. The study promoted regional thought and coordination in improving and reducing the growth in traffic congestion along the corridor.

The intent of the study was to identify challenges associated with planning and accommodating Corridor growth. The study aimed at addressing the following objectives established by stakeholders:

- Keep traffic moving
- Coordinate local, regional, and state decision-making
- Improve economic development
- Encourage growth nodes that promote transit and walking

- Protect natural areas
- Promote placemaking
- Strengthen existing developed areas

The study includes a toolbox of resources, best practices, and strategies to help municipalities address the identified planning challenges, and a valuable market analysis that provides data to suggest the type of industry that could be supported in the Corridor.

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Public Outreach

For over 50 years, Kane County has reaped the benefits of cutting-edge planning policies designed to achieve a prosperous, more desirable county. To continue those efforts, the County developed a public outreach campaign called *Quality of Kane* that embodied the continuous mission to create an exceptional Kane County with Healthy People, Healthy Living and Healthy Communities. In the Spring and Fall of 2011, the County held a series of community outreach meetings across the County to get active participation and input on the long range planning efforts.

In addition to the *Quality of Kane* campaign outreach efforts, the County also solicited feedback from municipalities, park districts, the Forest Preserve, the Regional Transportation Authority, the Chicago Metropolitan Agency for Planning, the transit service boards (Pace and Metra), the Illinois Department of Transportation, the Tollway, special interest groups and other local agencies through the Kane/Kendall Council of Mayors Policy Committee, Bicycle/Pedestrian Committee, Transit Committee, Paratransit Committee and Full Council.

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Plan Implementation & On-Going Management

Transportation & Land Use Integrated Planning

The 2040 Transportation Plan is a synthesis of several planning projects the County has completed in recent years. The 2040 Transportation Plan brings together these studies, along with a long-term vision for roadway improvements, and establishes a common platform from which Kane County and representative stakeholders would make decisions regarding the development of the future transportation system. The Plan establishes a prioritization for the County's roadway capacity enhancements that are projected to be financially attainable by identifying the priority and committed projects that have known construction funding sources and are anticipated to be built in the near term. These priority projects along with the other transportation strategies can be implemented over time in relationship to development patterns.

Kane County's challenge is to be responsive to growth by enhancing mobility and yet maintaining the objectives and policies of the County's 2040 Transportation and Land Resource Management Plans. The Transportation Plan identifies the needed infrastructure and transportation strategies to support the projected growth of approximately 290,000 people and 144,000 jobs in Kane County by 2040. The roadway improvements will address capacity, safety, and access issues, as well as the maintenance of existing roadways. In addition, the projected growth will require a sustained commitment to maintain and expand transit service, bicycle and pedestrian facilities, and TSM and TDM strategies thereby providing a comprehensive and coordinated multi-modal transportation system that serves the differing needs of Kane County residents.

Plan Evaluation to Objectives & Strategies

Safety Objective

The 2040 Transportation Plan provides improvement recommendations that include design elements to address the safety and needs of all users of the transportation system. For example, the transit planning efforts (for instance the Pace Route 529 Study) have resulted in improvements to the transportation system that include enhancing transit and pedestrian linkages and the addition of bus shelters as a safety refuge for transit riders. The on-going bicycle and pedestrian planning efforts have resulted in additional multi-use trail facilities, and the identification of Bicycle Level of Service (BLOS) along the roadway system which provides a level of comfort indicator for bicyclists of all experience level. Roadway projects contain essential safety elements such as grade separations, intersection improvements and improved connectivity.

As the County moves forward with the implementation of the plan, each project will be considered for safe roadway designs and access management standards to increase safety for motorists, pedestrians, cyclists and public transportation users.

Personal Mobility Objective

The 2040 Transportation Plan is a multi-modal approach to providing Kane County residents a number of options for transportation service between origin and destination. While mobility will be served primarily by the automobile, improvements to transit, paratransit, bus, bike and pedestrian facilities have been studied by the County and regional transportation agencies to support the County's various transportation needs. In addition to the improvements to traditional public transit system, supporting community and employer sponsored services and facilities such as transportation hubs, centers and park-n-ride lots will encourage transit use.

The IL 47 Corridor Study and Randall/Orchard BRT Feasibility Study both link land use and transportation and provide planning and design recommendations for developments that connect people to employment, commercial and retail centers; foster healthy communities; encourage the use of alternative modes of transportation; and therefore improve personal mobility.

Cooperative Planning Objective

The planning process has capitalized on the planning efforts at both the local and regional level as critical inputs to the foundation of the recommended Transportation Plan. At the regional level, CMAP's GO TO 2040 Plan for northeastern Illinois was referenced to identify major capital projects that will serve the future transportation needs of the metropolitan area. In addition, the CMAP socioeconomic forecasts were used as a basis for defining future development in Kane County and the corresponding travel within the County and the surrounding area.

To gain insight from a local level, Kane County's sub-area plans were used to define growth trends and the need to provide commensurate investment in the transportation infrastructure. These planning efforts engaged a variety of stakeholders, and provided a common platform in which to develop long-range sub area plans for roadway, transit, and bike and pedestrian facilities that bridged local government boundaries.

The ten Smart Growth and 6 Livability principles provide a connection between the County's Transportation and Land Resource Management Plans. These principles are:

Smart Growth Principles

1. Mix land uses
2. Take advantage of compact building design
3. Create a range of housing opportunities and choices
4. Create walkable neighborhoods
5. Foster distinctive, attractive communities with a strong sense of place
6. Preserve open space, farmland, natural beauty and critical environmental areas

7. Strengthen and direct development towards existing communities
8. Provide a variety of transportation choices
9. Make development decisions predictable, fair and cost effective
10. Encourage community and stakeholder collaboration in development decisions

Livability Principles:

1. Provide more transportation choices
2. Promote equitable affordable housing
3. Enhance economic competitiveness
4. Support existing communities
5. Coordinate and leverage federal policies and investments
6. Value communities and neighborhoods

Based on both the Smart Growth and Livability Principles, the County's 2040 Land Resource Management Plan provides a vision for safe, healthy and livable communities that maintain a balance between growth and land preservation. The 2040 Transportation Plan provides a road map from which the County would coordinate with municipalities to establish transportation improvements that would meet the needs of the County. The County will also coordinate with the municipalities when new developments are proposed to ensure that the necessary transportation improvements are implemented. Land use and transportation planning should be conducted in concert to ensure that development is efficiently served by the transportation system. Implementation of the Land Resource Management Plan, combined with effective coordination of land use and transportation planning, could ultimately result in a reduction of reliance on the roadway system.

Quality of the Environment Objective

Roadway improvements identified in the 2040 Roadway Improvement Plan were generally considered in relationship to existing environmental constraints. At locations where there were obvious conflicts, an attempt was made to avoid sensitive environmental features. Potential conflicts would be evaluated in more detail during the design phases of the individual projects. The County will continue to focus on preserving and protecting natural resources throughout each phase of project development.

Planning efforts such as the IL 47 Corridor Planning Study and the Randall/Orchard BRT Feasibility Study encourage development patterns that reduce trip generation and the use of the single occupancy vehicle, provide alternative transportation options and therefore reduce energy consumption and improve air quality.

Overall, the Transportation Plan was developed concurrently with the County's Land Resource Management Plan. A key element of the planning process is the recognition of maintaining 50 percent of land in Kane County as either farmland or designated open space. The goals of conservation and preservation related to land development are linked to the infrastructure needs. To that end, the process of implementing improvements in conjunction with land development provides a necessary link between the planning and implementation of transportation improvements.

System Efficiency Objective

The overall Transportation Plan is comprised of arterial roadway improvements, collector roads, regional connections, bike and pedestrian trails, transit enhancements, transit supportive land use recommendations, access management and alternative transportation control measures. The Recommended Roadway Plan improvements are critical elements of the Transportation Plan and are essential in reducing congestion. The sub-area planning studies focused on providing an adequate collector road system in areas where development was projected. The new collector road systems in combination of the arterial improvements would serve to enhance system transportation efficiency by:

- Shifting traffic from the arterial to the collector roads;
- Providing an alternative route in the case of incidents or special events; and
- Providing easy and safe access to abutting residential areas.

In combination with the roadway improvements, the implementation of access control guidelines will enhance system efficiency. Access management recognizes the relationship between the functional classification of the roadway and the need to balance mobility and land access. The Kane County Permit and Access Control Regulations consider the following elements of access planning:

- The roadway;
- The access point; and
- Abutting property and the associated land development.

A recommendation of the Transportation Plan is to include more County roads where access control management would be applied along with the coordination of access issues with various transportation agencies.

On-Going Management of the Plan

The Kane County 2040 Transportation Plan is comprehensive by incorporating roadway, transit and non-motorized improvements. A complete list of roadway improvements has been developed as part of the recommended Transportation Plan. A prioritization of the County's road improvements (i.e. capacity enhancements, bridge corridors, and intersection improvements) has been made through the identification of roadway projects as part of the county priorities. The County's priority projects would be either primarily funded by Kane County, other than the IL 47 and I-90 interchange project. As a result, the County will focus on implementing these improvements to address the projected transportation needs. For the remaining roadway improvements contained in the Plan, the County will coordinate with State and Local agencies to implement these projects as funding becomes available. The County will also continue its on-going process of evaluating projects annually and determine which projects should be incorporated in the County's 5-year transportation improvement plan. It is this process that allows the County to identify priority projects in the short-term by considering local development trends, implementation of regional improvements, and funding issues.

Future Planning Opportunities

Coordinated Planning

The implementation of the recommended Transportation Plan will require significant coordination from Kane County and various agencies from planning through construction. Kane County has developed a Transportation Plan that balances the County's objectives from the Land Resource Management Plan and the projected needs given the significant growth in development over the planning horizon. The County's efforts in coordinating with local municipalities to manage transportation and land use issues will be a key success factor in developing a comprehensive transportation system. The County will continue to focus on the preservation and acquisition of right-of-way needed to implement transportation projects in the recommended Transportation Plan. As part of new developments, Kane County will also continue to coordinate with local municipalities and developers to incorporate collector roadways that would provide sufficient connectivity to the existing roadway network.

It will be imperative for Kane County to continue to coordinate with state and federal transportation agencies to coordinate roadway, transit, and non-motorized improvements. Capacity enhancements to major arterials and interstate facilities within the County will be needed to handle the projected growth in travel. The availability of both transit and non-motorized improvements will be important in providing alternative modes of transportation.

Transportation and Land Use

The Conceptual Land Use Strategy adopted by the Kane County Board is the framework for the Land Resource Management Plan. Land use strategies are established for three areas within the County – the Sustainable Urban Area located in the easternmost portion of the County along the Fox River; the Critical Growth Area located west of the Urban Corridor generally in the center of the County; and the Agricultural/Food, Farm and Small Town Area in the westernmost portion of the County.

Two of the Smart Growth Principles are to create walkable neighborhoods and provide a variety of transportation choices. It is acknowledged that communities are implementing new approaches to transportation planning, such as better coordinating land use and transportation; planning for land uses that can support higher quality transit service; creating redundancy, resiliency and connectivity within the transportation networks; and ensuring connectivity between pedestrian, bike, transit, and road facilities. Both the IL 47 Corridor Planning Study and the Randall/Orchard BRT Feasibility Study promote development patterns that include mixed-use, higher density, transit supportive land use patterns with improved pedestrian linkages and access to the arterial corridors. These conditions have the ability to accommodate enhanced transit services and create walkable neighborhoods.

Aggressively Seek Funding for Transportation Projects

The County's needs are funded from several major sources: property tax, local and state MFT, and federal subsidies. Kane County's recommended Transportation Plan has identified more needs than revenues. Even the fiscally constrained plan would require additional revenue sources to meet the near term needs.

In 2004, the County enacted an Impact Fee Program that will offset a small percentage of the roadway improvement costs, but more capital will be needed. Additionally, the County was proactive in financing roadway improvements with bonds issued in 2001 and 2009. Kane County will continue to work with governmental and transportation agencies to develop cost sharing strategies to finance future roadway improvements. The County should also continue to seek other ways in which to fund transportation improvements.

Context Sensitive Design

Implementation of the recommended Transportation Plan should be guided to a large extent by principles that are sensitive to the context of each project.

Context Sensitive Designs (CSD) is among the most significant concepts to emerge in highway project planning, design and construction in recent years. Also referred to as “Thinking Beyond the Pavement,” CSD reflects the increasingly urgent need to consider highway projects as more than transportation. CSD recognizes that a highway or road itself, by the way it is integrated within the community, can have far-reaching impacts (positive and negative) beyond its traffic or transportation function. The term CSD refers to as much an approach or process as it does to an actual outcome (NCHRP Report 480, *A Guide to Best Practices for Achieving Context Sensitive Solution*, Transportation Research Board, 2002).

“Context Sensitive Design asks questions first about the need and purpose of the transportation project, and then equally addresses safety, mobility, and the preservation of scenic, aesthetic, historic, environmental, and other community values. Context sensitive design involves a collaborative, interdisciplinary approach in which citizens are part of the design team” (FHWA, *Flexibility in Highway Design*, 1998).

Inclusion of CSD principles in the Kane County project development process will ensure stakeholder participation in development of the transportation system. It will also assist in maintaining aesthetic and environmental values as land use changes occur in rapidly developing areas of the County.

Access Management

Access management in Kane County is controlled by the Kane County DOT Permit Regulations and Access Control Regulations approved by the County Board on January 1, 2004. These regulations provide updated policies and detailed procedures for permitting access to County highways.

The guiding philosophy of the Access Control Regulations is to “provide safe, efficient transportation systems compatible with land use” by controlling access on roadways to minimize curb cuts and local street intersections and maintaining existing roadway capacity.

It is important that the County continue to enforce access management on the County highway system, particularly along major arterial roadways that are primarily intended to serve higher levels of traffic of a more regional nature. The benefits of access management are improved safety, greater roadway capacity, decreased travel time and congestion, improved air quality, and the maintenance of travel efficiency with related economic prosperity.

Rustic Roads

The Kane County Board adopted the Kane County Rustic Roads Program in July 2000. The objective of this program is to preserve and enhance Kane County's rural character while incorporating new development and transportation needs as subtly as possible. In this respect, it compliments and furthers the Context Sensitive Solutions (CSS) principles, described above, and should be an important element in long-range transportation planning and implementation.

The Rustic Roads program applies to both roads and surrounding features along a designated roadway corridor. It is intended to protect some of the rural roads and scenic vistas for future generations. Features of the roadway corridor that should be protected and enhanced are defined in a Corridor Management Plan developed when the route is designated a Rustic Road.

Travel Control Measures

Travel control measures consist of actions to improve either the demand (TDM – Traffic Demand Management) or supply (TSM – Traffic System Management) of transportation. TDM is not one action, but rather a set of actions or strategies, the goal of which is to encourage travelers to use alternatives to driving alone, especially at the most congested times of the day. The term TDM encompasses both alternative modes to driving alone and the techniques, or strategies that encourage use of these modes. The primary goal of most TDM programs is to reduce commute trips in a particular area and/or at a particular time of day. Program effectiveness varies widely by program type, by site, and by the TDM strategies chosen.

TSM is the concept of more efficiently using existing transportation systems by means other than large-scale construction. Just as TDM strategies are aimed at managing transportation demand, TSM strategies are directed at managing the transportation system. Examples of TSM include:

- Physical improvements to roadways, intersections and interchanges such as lane or shoulder widening, channelization, grade separations, and removal of restrictive segments that prevent full utilization of capacity
- Traffic Incident Management and advance traffic control and surveillance systems
- Preferential or exclusive lanes for transit and/or high occupancy vehicles (HOVs)
- Provisions for parking and loading
- Pedestrian and bicycle facilities

Historic Preservation

Amendments to the Kane County Historic Preservation Ordinance, enacted in June 2000, expanded the scope of historic preservation to include "road corridors." Road corridors were defined to include not only the roadway itself, but also adjacent properties and scenic vistas and view sheds. This program, which empowers the County to protect and enhance facilities that have historic significance, is another important tool that will be retained and applied in the development of the recommended Transportation Plan.

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Summary

The 2040 Transportation was developed with the involvement of the communities, special interest groups and regional transportation and planning agencies. It is the long-term vision that guides county policy and programming decisions, and is representative of the County's continued commitment to safety, personal mobility, cooperative planning, the environment and system efficiency. It consists of three main elements:

1. Roadway Plan
2. Bicycle/Pedestrian Plan
3. Transit Plan

These coordinated planning efforts, result in a comprehensive suite of improvement recommendations and strategies to accommodate all users of the transportation system, provide transportation options to increase connectivity and personal mobility, and improve the overall quality of life.

In light of the financial forecast, and with needs far exceeding the projected revenues, the County will continue to work with governmental and transportation agencies to develop cost sharing strategies and seek additional funding opportunities to implement the transportation plan.

The implementation of the 2040 Transportation Plan will require an on-going process of evaluating how future projects conform to the objectives and strategies set forth in this plan. An emphasis in the planning process has been, and will continue to be, the interaction of transportation planning and land use. Considering the Smart Growth and Livability principles in the development and implementation of projects will yield a transportation system that is multi-modal and serves the differing needs of those who live and work in Kane County.